

# Glycopeptide Study Cheat Sheet

	Vancomycin	Daptomycin (Cubicin)	Telavancin (Vibativ)	Oritavancin (Orbactiv)	Dalbavancin (Dalvance)
Available generic	Yes	Yes	No	No	No
Mechanism of action	Inhibits d-ala, d-ala, interfering w/ the cell wall	Depolarization of the bacterial cell wall	Inhibits d-ala, d-ala + cell wall depolarization	Inhibits d-ala, d-ala and binds to stem peptides interfering w/ the cell wall	Inhibits d-ala, d-ala, interfering w/ the cell wall
Half-life	Hours	Hours	Hours	Days	Days
Typical adult dosing	15mg/kg Q12h (IV) // 125mg Q6h (PO)	6-8 mg/kg Q24h	10mg/kg Q24h	1.2gm x1	1.5gm x1
Streptococci	+	+	+	+	+
MRSA	+	+	+	+	+
VRE	-	+	+/-	+	+/-
<i>Clostridium difficile</i>	GI route only	-	-	-	-
Gram-negative bacilli	-	-	-	-	-
Monitor levels	Yes	No	No	No	No
Renal adjust (CrCl)	Yes, depends	< 30	< 50	Maybe < 30	< 30
Available IV	Yes	Yes	Yes	Yes	Yes
Infusion time	≥ 60 min/gram	2 minutes (adults only)	1 hour	3 hours	0.5 hours

### Daptomycin-Specific Points

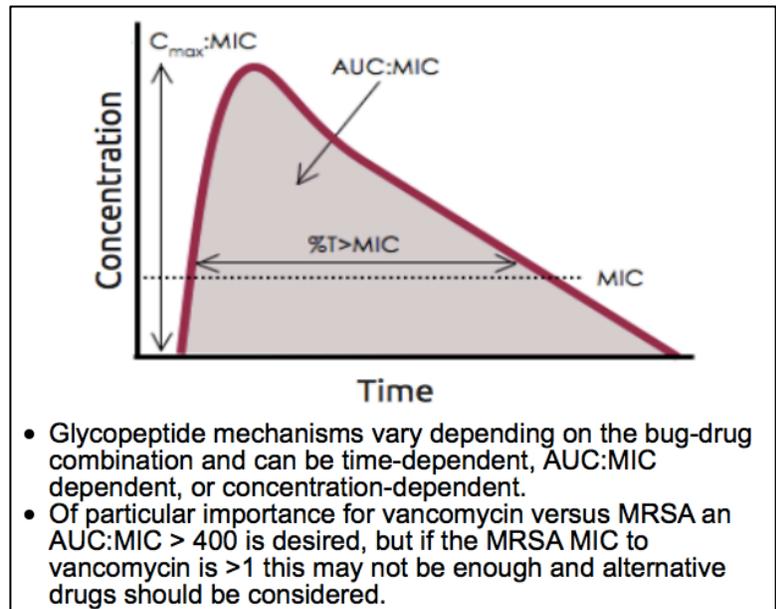
- Not for pneumonia, inactivated by lung surfactant
- Can cause CK elevation, beware rhabdomyolysis
  - Consider holding statin during therapy
- Does not cause Red Man Syndrome
- A go-to drug for VRE bloodstream infection

### Vancomycin Dosing Highlights

- Usually dose using actual body weight
- Monitor levels to balance efficacy versus toxicity
  - Common initial trough goal is 15-20 mcg/mL
  - Troughs above 25 associated w/ nephrotoxicity
- Loading dose for critically ill patients
- Renal function directly tied to vancomycin elimination

### Miscellaneous Notes...

- Daptomycin, telavancin, oritavancin, and dalbavancin are actually lipoglycopeptides.
- Vancomycin widely considered the DOC for *Corynebacterium* and *C. difficile*.
- There is a Cubicin RF product, which is a reformulation of daptomycin that allows for better stability and storage.
- Vancomycin resistance is conferred via Van genes (e.g., VanA, VanB), which cause a change in the binding site from d-ala, d-ala to d-ala, d-lac. Van genes can confer resistance to other glycopeptides.
- Telavancin is not commonly used in clinical practice, while vancomycin is very frequently used in hospitals.
- Oritavancin and dalbavancin are being used in Emergency Departments to prevent hospitalizations.
- Vancomycin oral has poor systemic absorption and is only to be used for *Clostridium difficile* infection.



### Red Man/ Neck/ Person Syndrome

NOT an allergic reaction. Upper body flushing, urticaria, pruritis, and/or rash. Caused by histamine release when certain glycopeptides are infused too quickly. Many times can be resolved with use of antihistamines and slower infusion rates. Note that each gram of vancomycin should be infused over at least 60 minutes.

**Abbreviations:** AUC = area under the curve, Cmax = maximum concentration, DOC = drug of choice; MIC = minimum inhibitory concentration, MRSA = methicillin-resistant *Staphylococcus aureus*, VRE = vancomycin-resistant Enterococci